Title: The Early Effects of Coronavirus-Related Social Distancing Restrictions on Brands

Authors, affiliations and contact: Catherine E. Tucker Massachusetts Institute of Technology - Management Science (cetucker@mit.edu), Shuyi Yu, Massachusetts Institute of Technology, Sloan School of Management (shuyiyu@mit.edu)

Abstract: This paper presents some of the first evidence on the effect of the spread of coronavirus (COVID-19) in the US on retail footfall traffic. The paper uses granular visit data from cell-phone tracking to estimate the shift in visits to different types of restaurants as coronavirus spread in the USA across the first three weeks of March 2020. The descriptive empirical work provides three useful insights. First, the precise level of coronavirus spread in the state or the timing of any in-person dining ban in the state has had far smaller effects than the pronounced nationwide overall collapse in demand. Second, there is little evidence of substitution towards restaurants focused on delivery as a result of the bans. Though dine-in restaurants suffered the largest drop in customers as a result of state-imposed restaurant bans, quick-service restaurants experienced a steep decline. Last, the biggest individual effects of these state-specific bans appears to have been top-ranked brands focusing on full service dining. Both top and non top-ranked brands suffered drops for restaurants not focused on dining in, with top brands suffering a slightly smaller decline.

Data description: We use data provided by Safegraph for the purposes of studying the spread of coronavirus for the first three weeks of March 2020. This data is built on a panel of 45 million devices that collect anonymous location data. Each of the users of these devices has opted into an app and given permission for their location to be tracked. Safegraph matches the location of these devices to a variety of locations of branded physical retail locations within the US. It then records the number of visits to that location within one day. The key measure of a visit is not the same as a purchase, but it is a useful estimate of visits to a physical location. And given that many of the policies focused on stemming the spread of coronavirus are focused on reducing foot traffic and physical proximity this seems a useful measure. To focus on the effect of dining bans, we only include visit data for restaurants (including full-service restaurants and limited-service restaurants) in our dataset.

JEL codes: L96, M15, I28, L86

Key-words: coronavirus, social distancing, restaurants, foot traffic